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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/915,502	07/27/2001	Klaus Heller	4100-0131P	6779
2292	7590	12/08/2004	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			TALAPATRA, ANIKA F	
			ART UNIT	PAPER NUMBER
			2631	

DATE MAILED: 12/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/915,502

Applicant(s)

HELLER ET AL.

Examiner

Anika F. Talapatra

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 and 3-10 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>27/07/01, 24/09/01</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement filed 27 July 2001 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because no English translation has been provided for the following document, therefore the following document has not been considered:

DE 43 26427 Germany.

It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

It is also notified hereby that the IDS filed on 24 September 2001 was not initialed by the examiner because it is a copy of the IDS filed 27 July 2001, which was already considered and initialed by the examiner.

Drawings

3. The drawings are objected to because in figure 2, error terms $\hat{\varepsilon}$ and $\Delta\hat{\varepsilon}$ are shown. The specification refers to error terms ε and $\Delta\varepsilon$. Therefore, figure 2 should be amended to show the labels ε and $\Delta\varepsilon$.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The abstract of the disclosure is objected to because it is longer than 150 words. Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space

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provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details. The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

5. The disclosure is objected to because of the following informalities: The abbreviation WCDMA is used on page 1, line 7 of paragraph 2. All abbreviations used in the specification must first be defined in the specification before the abbreviation is used in the specification. Wideband code division multiple access (WCDMA) is the correction. Appropriate correction is required.

Claim Objections

6. Claim 2 objected to because of the following informalities: Claim 2 refers to linear regression of claim 1. Claim 1 refers to regression and not linear regression. Claim 1 must be corrected to refer to linear regression in order for claim 2 to be a proper dependent claim. Appropriate correction is required.

Allowable Subject Matter

7. Claims 1 to 10 are allowed except for formal matters detailed in 2 to 6 above. The following is an examiner's statement of reasons for allowance: Claims 1 to 10 are allowed because a search of prior art of record failed to teach, either alone or in combination, a process or apparatus for correcting a resampler

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by performing a non-linear operation on the input signal, spectrally shifting the input signal by one of the symbol and chip frequencies, determining the phase of the shifted spectral line at one of the symbol and chip frequencies as a function of the sampling time points, and correcting one of the resampling factor and a time shift of the output signal by a time correction value based on a linear regression of the phase of the shifted spectral line at one of the symbol and chip frequencies as a function of the sample points.

Paulos teaches a resampler using an interpolation filter prior to the resampler, while the applicant teaches a non-linear operation, a shifted spectral line, and linear regression for resampling factor correction.

Fung teaches a resampler where resampling is controlled by the difference between counters in the receiver and the transmitter, while the applicant teaches a resampling based on a non-linear operation, a shifted spectral line, and linear regression for resampling factor correction.

Painchaud teaches a resampler which outputs a signal at a rate independent of the data rate of the digitized analog signal. The applicant also teaches a resampler which outputs a signal at a rate f_C which is different than the digitized sampling rate f_A . However, Painchaud does not teach: use of a non-linear operation, a shifted spectral line, and linear regression for resampling factor correction, as taught by the applicant.

Bannister teaches use of a non-linear operation and decimation, but does not teach a method for resampling of an input signal using resampling factor correction. The applicant teaches the use of a non-linear operation and decimation, but also teaches the use of resampling factor correction in a resampling process.

Scarpa teaches the use of a non-linear operation, spectral line extraction, and adjustment of the sampling rate. The applicant also teaches the use of a non-linear operation and a shifted spectral line, but the applicant also teaches the use of linear regression and resampling factor correction.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

8. As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- i. U.S. Patent 6208671, Paulos et al.;
- ii. U.S. Patent Application Publication 2001/0055354, Fung et al.;
- iii. U.S. Patent 6741650, Painchaud et al.;
- iv. U.S. Patent 5577159, Shoham, y.;
- v. U.S. Patent 5287387, Birchler, M. A.;
- vi. U.S. Patent 4949177 Bannister et al.;
- vii. U.S. Patent Application Publication 2001/0031020, Hwang et al.; and
- viii. European Patent Application 0610683 A2, Scarpa, C. G.

10. This application is in condition for allowance except for the formal matters detailed in numbers 2 to 6 above.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anika F. Talapatra whose telephone number is 571-272-6039. The examiner can normally be reached on 08:00-16:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A.T.

A.T.

6 December 2004

12/6/04

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**PHUNG PHU
PRIMARY EXAMINER**